## **EXHIBIT F**

SA CV 02-1040 JW (MLGX)

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DECLARATION OF PETER ALEXANDER IN SUPPORT OF

ACACIA'S OPPOSITION TO MOTION FOR SUMMARY JUDGMENT

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with the release in 1982 of the Philips "Video Disc" brought a multitude of computercontrolled recorders and players: Videodisc and LaserDisc; Compact Disk-Digital Audio ("CD-DA"); Compact Disk-Read Only Memory ('CD-ROM"); Compact Disk Interactive ("CD-I"); and Digital Video Interactive ("DVI") systems involving some combination of the hardware referenced above in conjunction with user-oriented interactive computer programs. The latter, DVI, created as a proprietary system by General Electric was revolutionary in that it permitted up to one hour of full motion video stored on a CD-ROM using compression algorithms and special semiconductor chips.

- The notion of "sequences" to describe a series of video frames is 32. ingrained to the video production community. The cited article Lippman89 (attached as Exhibit 5) carries the title and introduction: 8 "Coding Image Sequences for Interactive Retrieval. An image coding technique for digital storage of motion picture information is presented that is optimated [sic] for use in interactive systems where high quality still frames, random access, and database linkages are required."
- Here, a frame of video represents a snapshot in time of the video image, 33. either in analog form as for television signals, or as an array of digital samples of the image. This cited article was published in 1989, and is indicative of the trend at that time towards the encoding of individual video frames for the purpose of random access rather than the simple sequential ordered playback of frames. The patent term "sequence encoding" in the context of video production and transmission describes the assignment of a time code to each frame in a video sequence of frames to achieve addressability. Thus, frame encoding was known to persons skilled in the art before January 1991 to involve the assignment or encoding of a sequence position identifier. In the cited article this tagging was achieved by means of a database of frame information. A device or computer program encodes frame sequence identifiers using numeric or alphanumeric codes drawn from an ordered sequence. Other articles in the early 1980s use similar terminology [See MacKay89 attached as Exhibit 6,

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McDonald8l attached as Exhibit 7, Souter88	at pp.47-48 Ex.	2,.Miller87 at p	pp. 8, 20,
38-39 Ev. 3.1			

In 1967, The US Society of Motion Picture and Television Engineers 34. introduced the "SMPTE" time code (see SmpteXX attached as Exhibit 8). In 1972 the European Broadcasting Union ("EBU") introduced a similar system for 625 line PAL television standards. The SMPTE timecode is represented as an 80-bit binary code and is encoded into studio quality video or audio recordings at 30 frames per second. (EBU timecodes are encoded at 25 frames per second.) These video encoding methods have been used since the early days of studio VTR recording for precision editing and copying of video recordings. (See White88 at pp. 236-238 Ex. 4.) Each frame of video is associated with a unique time code identifier that has time resolution down to seconds and a frame count within a second. This frame level resolution allows copying and editing of individual video frames within a video sequence. From White 88 at pp. 239 attached as Ex. 4):

"Time code editing

To further automate the editing process, the EBU in 1972 standardised an 80 bit digital code which allowed each frame to be identified on a separate audio track (Figure 191).

The code also identifies hours, minutes and seconds, and....When recording, the time of any sequence can be noted and in the editing suite control systems can be set to search and find the particular insert automatically."

When the time code is recorded on the master machine, systems can be produced to store addresses, control

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rehearsals and edits and operate the programme of... instructions."

There is no doubt from this description that during the 1970s and 1980s, SMPTE and EBU timecodes were in use in professional video post-production studios as methods of encoding sequences of frame identifiers onto video clips to allow the registration of precise edit points. The "programme" referred to represents a list of edit point addresses (start frame, stop frame) stored in a computer store. (See White88 pp.240 Ex. 4.) Note the resemblance to portions of the claim 7 and claim 33 language: "A communication system as recited in claim 1, wherein said sequence encoder transforms digital data blocks into a group of addressable data blocks. "

Philips introduced the videodisc in 1982. Many different recording 35. formats were subsequently developed, but one in particular, Constant Angular Velocity ("CAV"), was set up to rotate at 30 RPM, so that one rotation corresponds exactly to a single video frame. This configuration allows for the implementation of video interactive applications such as frame level random access, still picture access, and slow motion access, since the head may be held fixed over a single frame track. In describing these systems, frequent references are made to both "sequences" and "encoding" on a per frame basis. For example, at Miller87 page 8 (Ex. 3),

> "Therefore the designer is free to place all kinds of images and sequences on the level I disc"

and at page 10, branching to different video sequences is described;

"On the entry of the user's input, the player will branch to one of three completely different locations on the disc and play a new sequence based on the user's input."

When discussing the production of videodiscs from pre-master tapes, 36. Souter88 uses the following language (See Souter88 page 96 Ex. 2):

> "As with the frame numbers on a videodisc, each frame of videotape is identified by 'time code.' This code is